HOW TO EVALUATE THE EXTENT OF MOBILITY STRATEGIES IN A UNIVERSITY CAMPUS: AN INTEGRATED ANALYSIS OF IMPACTS

Paulo Fernandes[1], Carlos Sousa[1], Joaquim Macedo[2], Margarida Coelho[1]

[1]Centre for Mechanical Technology and Automation (TEMA), Department of Mechanical Engineering, University of Aveiro
[2]Aveiro Research Centre of Risks and Sustainability in Construction (RISCO), Department of Civil Engineering, University of Aveiro, Portugal

E-mail: {paulo.fernandes; carlossousa; jmacedo; margarida.coelho}@ua.pt

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This research explored the integrated effect that several mobility scenarios had on traffic performance, conflicts, global and local pollutants, and emission-related costs on a University Campus. It was hypothesized that the implementation of a new direct access to the campus without any capacity restriction may have negative effects for the overall network performance.
A calibrated and validated modeling platform of traffic, emissions and safety was used to examine different traffic scenarios in the University of Aveiro, Portugal. These included the replacement of traffic lights by roundabouts, a new direct access to campus and some parking areas, increasing campus walkability and introduction of speed humps on main crosswalks. The analysis was performed both link-by-link and in the overall study area.
Mobility scenarios with a new direct access to the campus yielded average reductions up to 9% in both costs and local pollutants (carbon monoxide, nitrogen oxides and hydrocarbons), and 36% and 32% for the number of stops and traffic conflicts, respectively. Nonetheless, additional traffic conflicts can be expected within campus after the implementation of those scenarios compared to the existing situation where no traffic capacity restrictions are assumed.

KEYWORDS: Integrated analysis; modeling; mobility measures; parking; university campus

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